



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/434,314	11/04/1999	PETER J. BLACK	PA000045	3810
23696	7590	06/05/2006	EXAMINER	
QUALCOMM, INC			LEE, JOHN J	
5775 MOREHOUSE DR.			ART UNIT	
SAN DIEGO, CA 92121			PAPER NUMBER	

2618

DATE MAILED: 06/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/434,314

Applicant(s)

BLACK, PETER J.

Examiner

JOHN J. LEE

Art Unit

2684

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 40-51, 53-58, 69-83, 87-90, 92-94 and 96 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 40-51, 53-58 and 69-75 is/are allowed.
- 6) ☒ Claim(s) 76-83, 87-90, 92-94 and 96 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Applicant's arguments with respect to claims 76 – 83, 87 – 90, 92 – 94, and 96 have been considered but are moot in view of the new ground(s) of rejection.

#### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 76 – 83, 87 – 90, 92 – 94, and 96** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kondo (US Patent number 6,526,028) in view of Hall (US Patent number 5,491,717).

Regarding **claims 76 and 87**, Kondo discloses that a wireless system for performing handoff (Fig. 1 and column 22, lines 19 - 41). Kondo teaches that determining, by subscriber station (10 in Fig. 7), when a handoff to a base station (20 in Fig. 7) is necessary (Fig. 7 and column 3, lines 52 – column 4, lines 28, where teaches a mobile station measures propagation losses (signal strength) in communication with base station, and the mobile station for making possible to communicate with the base stations by a soft handover as the power measures below the threshold value). Kondo teaches that receiving, by the subscriber station, reverse link power control commands (Fig. 7, 15 and column 30, lines 38 – 50 where teaches as the mobile station for making possible to communicate with the base stations by a soft handover, the base stations transmit a

reverse transmission power control information signal and pilot information signal to the mobile station). Kondo teaches that performing the handoff to the selected base station if signals transmitted by the subscriber station are being received by the selected base station with sufficient energy in accordance with the reverse link power control commands (column 30, lines 38 – column 31, lines 48, Fig. 9, 16, and column 8, lines 13 – 43, where teaches the base stations transmit power control information and pilot information to mobile station as the mobile determines to perform handover to another base station, and mobile station determines the a base station based on reverse link power commands since has been stored the reverse power commands in reception level measuring section, and transmits the information, reverse link fading information, to the base station. When base station determines whether or not any propagation error based on the reverse link fading information on the basis of the detected result, the base station transmits the forward transmission signal to the mobile station for performing handoff as measurement information is above the threshold).

Kondo does not specifically disclose the limitation “performing the handoff to selected base station based on the history of the reverse link power control commands”. However, Hall discloses the limitation “performing the handoff to selected base station based on the history of the reverse link power control commands” (Fig. 3, 5 and column 5, lines 23 – column 6, lines 57, where teaches performing the handoff to target base station based on the average handoff factor (storing the reverse power control information, average transmit power of the base station such that record of power information)). It would have been obvious to one having ordinary skill in the art at the

time the invention was made to modify the Kondo system, as taught by Hall, provide the motivation to enhance controlling handoff and achieve efficient handoff within mobile station in wireless communication system.

Regarding **claim 77**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that selecting, by the subscriber station, a base station to transmit to the subscriber station (Fig. 7, 15 and column 30, lines 38 – 50 where teaches as the mobile station for making possible to communicate with the base stations by a soft handover, the base stations transmit a reverse transmission power control information signal and pilot information signal to the mobile station). Kondo discloses that determining, by subscriber station, in accordance with the reverse link power control commands whether signals transmitted by the subscriber station are being received by the selected base station with sufficient energy (column 30, lines 38 – column 31, lines 48, Fig. 9, 16, and column 8, lines 13 – 43, where teaches the base stations transmit power control information and pilot information to mobile station as the mobile determines to perform handover to another base station, and mobile station determines the a base station based on reverse link power commands since has been stored the reverse power commands in reception level measuring section, and transmits the information, reverse link fading information, to the base station. When base station determines whether or not any propagation error based on the reverse link fading information on the basis of the detected result, the base station transmits the forward transmission signal to the mobile station for performing handoff).

Regarding **claim 78**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that the performing the handoff comprises transmitting, by the subscriber station, a message indicating the identity of the selected base station (column 1, lines 12 – 32 and Fig. 1, where teaches receiving side can carry out identification of each communication for each base station).

Regarding **claim 79**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that determining, by the subscriber station, that a base station used to communicate with the subscriber station continues to have the strongest signal received by the subscriber station (Fig. 7 and column 3, lines 52 – column 4, lines 28, where teaches a mobile station measures propagation losses (signal strength) in communication with base station, and the mobile station for making possible to communicate with the base stations by a soft handover as the power measures below the threshold value).

Regarding **claims 80 and 83**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that a memory configured to store reverse link power control commands provided by one or more base stations (column 30, lines 38 – column 31, lines 48, Fig. 9, 16, and column 8, lines 13 – 43, where teaches the base stations transmit power control information and pilot information to mobile station as the mobile determines to perform handover to another base station, and mobile station determines the a base station based on reverse link power commands since has been stored the reverse power commands in reception level measuring section, and transmits the information, reverse link fading information, to the base station). Kondo discloses

that a processor (107 in Fig. 8), coupled with the memory (115 in Fig. 8), configured to permit a handoff to a selected base station of the one or more base stations according to the reverse link power control commands (Fig. 8 and column 28, lines 7 – 52).

Regarding **claim 81**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that the reverse link power control commands requesting the subscriber station to decrease its transmission energy are indicative that the reverse link signal being received (column 26, lines 46 – 67 and Fig. 15, where teaches the reverse power control commands for decreasing or increasing power).

Regarding **claim 82**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that the reverse link power control commands requesting the subscriber station to increase its transmission energy are indicative that the reverse link signal is not being received (column 26, lines 46 – 67 and Fig. 15, where teaches the reverse power control commands for decreasing or increasing power).

Regarding **claim 88**, Kondo and Hall disclose all the limitation, as discussed in claim 76. Furthermore, Kondo discloses that a memory configured to store messages, provided by one or more base stations, indicating a rate request of reverse link transmissions by the apparatus (column 26, lines 46 – 53 and Fig. 7, 15, where teaches prediction is made that a transmission rate where a large capacity of data is transmitted from a data base at a network side the mobile station is large).

Regarding **claim 89**, Kondo and Hall disclose all the limitation, as discussed in claims 80 and 88.

Regarding **claims 90 and 94**, Kondo and Hall disclose all the limitation, as discussed in claims 76 and 77. Furthermore, Kondo discloses that determining if the first base station is receiving reverse link transmissions based in part on the message (column 30, lines 38 – column 31, lines 48, Fig. 9, 16, and column 8, lines 13 – 43, where teaches the base stations transmit power control information and pilot information to mobile station as the mobile determines to perform handover to another base station, and mobile station determines the a base station based on reverse link power commands since has been stored the reverse power commands in reception level measuring section, and transmits the information, reverse link fading information, to the base station. When base station determines whether or not any propagation error based on the reverse link fading information on the basis of the detected result, the base station transmits the forward transmission signal to the mobile station for performing handoff as measurement information is above the threshold), prohibiting handoff to the first base station if the first base station is not receiving reverse link transmissions, and allowing handoff to the first base station if the first base station is not receiving reverse link transmissions (Fig. 21 and column 32, lines 46 – column 33, lines 45, where teaches if the target base station is not sufficient power, turns transmission off, not allow the handoff).

Regarding **claim 92** Kondo and Hall disclose all the limitation, as discussed in claims 76 and 77. Furthermore, Kondo discloses that the received reverse link signal is a data request control signal (column 32, lines 34 – 45 and Fig. 20).

Regarding **claim 93**, Kondo and Hall disclose all the limitation, as discussed in claims 76 and 77. Furthermore, Kondo discloses that determining the first base station



was not selected for transmission of a last frame of data (Fig. 8 and column 28, lines 30 – 52).

Regarding **claim 96**, Kondo and Hall disclose all the limitation, as discussed in claims 76 and 90.

***Allowable Subject Matter***

4. Claims 40-51, 53-58, and 69-75 are allowed.

Claims 40-51, 53-58, and 69-75 are allowable over the prior art of record because a search does not detect the combined claimed elements as set forth in the claims 40-51, 53-58, and 69-75.

As recited in independent claims 40, 49, and 69, none of the prior art of record teaches or fairly suggests that for performing handoff comprises receiving, by a subscriber station pilot signals and reverse link power control commands from one or more base stations, selecting a first base station, performing a handoff to the first base station if signals transmitted by the subscriber station are received by the first base station with sufficient energy based in part on history of the reverse link power control commands received from the first base station, and together with combination of other element as set forth in the claims 40-51, 53-58, and 69-75. Therefore, claims 40-51, 53-58, and 69-75 are allowable over the prior art of records.

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

Art Unit: 2684

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Chheda et al. (US Patent number 6,515,975) discloses Fast Forward Power Control During Soft Handoff.

Kanterakis et al. (US 2005/0117549) discloses Common Packet Channel with Firm Handoff.

Information regarding...Patent Application Information Retrieval (PAIR) system... at 866-217-9197 (toll-free)."

Any response to this action should be mailed to:

Art Unit: 2684

Commissioner of Patents and Trademarks  
Washington, D.C. 20231  
Or P.O. Box 1450  
Alexandria VA 22313

or faxed (571) 273-8300, (for formal communications intended for entry)

Or: (703) 308-6606 (for informal or draft communications, please label  
"PROPOSED" or "DRAFT").

Hand-delivered responses should be brought to USPTO Headquarters,  
Alexandria, VA.

Any inquiry concerning this communication or earlier communications from the  
examiner should be directed to **John J. Lee** whose telephone number is **(571) 272-7880**.  
He can normally be reached Monday-Thursday and alternate Fridays from 8:30am-5:00  
pm. If attempts to reach the examiner are unsuccessful, the examiner's supervisor,  
**Edward Urban**, can be reached on **(571) 272-7899**. Any inquiry of a general nature or  
relating to the status of this application should be directed to the Group receptionist  
whose telephone number is (703) 305-4700.

J.L  
May 27, 2006

John J Lee

  
**EDWARD F. URBAN**  
**SUPERVISORY PATENT EXAMINER**  
**TECHNOLOGY CENTER 2600**